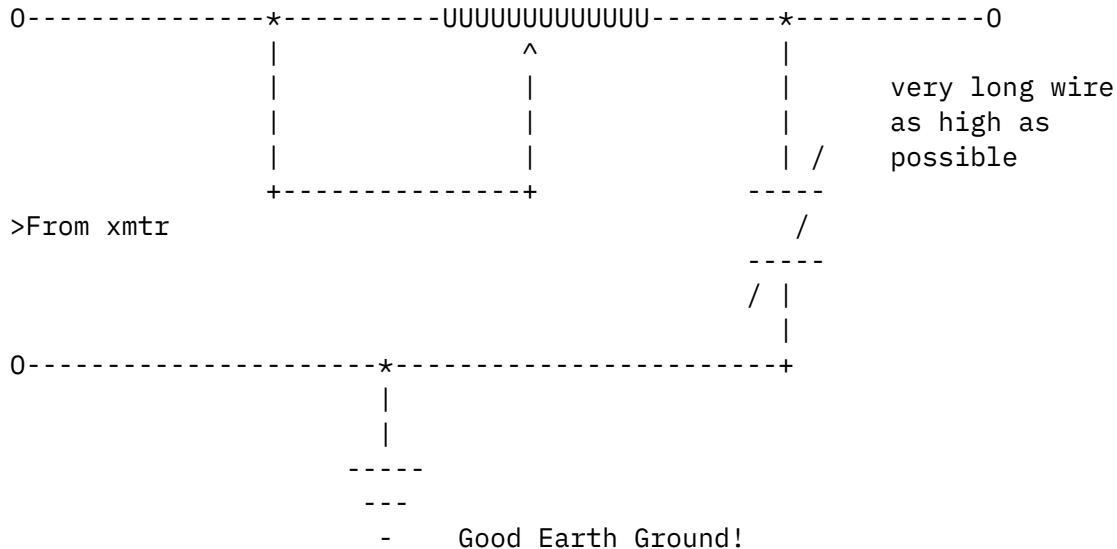


From ab4e1.com Tue Aug 20 00:00:00 1994
From: jeffrey@math.hawaii.edu
Subject: A simple tuner

Antenna tuner for a long wire antenna (this was Project #15 [?] from my series last year).



The inductor should be 24 turns of #12 wire, 6 turns per inch, 3 inch diameter; you can use an alligator clip to vary the inductance. The variable capacitor can be anything above 140 pF.

I wound my coil on a cardboard mailing tube of 2 1/2 inches diameter, 26 turns - came out to be 24 uH; nothing is critical here. In fact, you can use the tuning capacitor from an old AM broadcast band radio.

This circuit appeared in a book titled 104 HAM RADIO PROJECTS FOR NOVICE AND TECHNICIAN (1968) by Bert Simon W2UUN. Most library's have several of these older books on their shelves - lots of neat projects.

Jeff NH6IL

From ab4e1.com Tue Aug 20 00:00:00 1994
From: NYOUNG@DESIRE.WRIGHT.EDU
Subject: Another NN1G story

Damn, do I overestimate size. I made up some pcb boxes to put the tx and rx boards in and they were way to large for the box I had planned for the rig (extruded aluminum battle plate). So now I have to re-engineer for smaller space. You should see my carpentry.

Anyway, I got the receiver (30m version) working tonight. I am not thrilled about the sensitivity, but then, I have all this mechanical work to get through before the final hoo-hah. By the way, I used a slug inductor for the VFO and it worked fine. Tunes from about 10.1 to 10.137 or so. Not being digital, I can get by with that until I find the exactly perfect capacitor. So be it.

Now to get the tx working. I think I'll work on the box first. I think there's just enough room for the reduction drive to fit and still work square. I can hope. Might even have room for a keyer... heh heh heh. Where's my TenTec kits catalog...

So much for now. Another success story, or at least 50 percent of it. (I could get hung up on this small radio stuff, you know.)

73

Nils

WB8IJN &c

From ab4el.com Tue Aug 20 00:00:00 1994
From: prvalko <prvalko@vela.acs.oakland.edu>
Subject: Re: Another NN1G story

On Mon, 22 Aug 1994 NYOUNG@DESIRE.WRIGHT.EDU wrote:

> Damn, do I overestimate size. I made up some pcb boxes to put the
> tx and rx boards in and they were way to large for the box I had
> planned for the rig (extruded aluminum battle plate). So now I have
[snip]

I fit my complete NN1G from Dan's Small parts and Kits in the Radio Shack \$6.99 steel and aluminum box. Perfect fit! I just put the screws to the case last nite after I installed a 2" internal speaker.

> slug inductor for the VFO and it worked fine. Tunes from about 10.1
> to 10.137 or so. Not being digital, I can get by with that until I
[snip]

Hmmm. Only 37 Khz of bandwidth? I wonder if that's a function of the coil or the 30M version of the kit? My 20M version tunes from 14.007 to 14.058.

> and still work square. I can hope. Might even have room for a keyer...
> heh heh heh. Where's my TenTec kits catalog...

Mine is right next to me, I'm calling today to order the little audio
amp (2 of them) for my NN1G and for my MFJ-9040

73 =paul=

wb8zjl

From ab4el.com Tue Aug 20 00:00:00 1994
From: janderson@polycom.com
Subject: Re: Antenna experiments

Bob:

I also played around a bit last night with my antenna system. Normally I use my SWR meter to judge and adjust my antenna system matching (and have for done so for almost 25 years), but with all the disparaging remarks about SWR meters, when compared to field strength or RF current meters, I thought that I'd do some experimenting.

I dug up an RF current meter out of my "box 'o meters" and wired it into the transmission line between my tuner (MFJ-941: a classic "high-pass" T configuration) and my antenna (G5RV). I also set up a field strength meter in the shack.

On ALL bands, max RF current occurred when I tuned for minimum SWR. Similarly, max field strength occurred with minimum SWR. Interestingly enough, max RF current varied wildly between bands, but since the impedance of the G5RV also varies wildly between bands, I didn't find this surprising - for the same power, a high impedance system will have less current than a low impedance antenna system.

Anyway, I satisfied myself that using an SWR meter as a measure of antenna system matching is, for the tuners and antennas that I normally use, just fine.

- Jeff, WA6AHL

Notes:

1. Bob - you may have a point that SWR, as a concept, may be inappropriate for antenna systems that lack a feedline (although perhaps it is possible that the antenna itself can be thought of as a "diverging" feedline). However, this doesn't invalidate the use of SWR meters with systems with no feedlines. Many SWR meters are actually simple impedance bridges that measure the impedance "mismatch" of an impedance connected to their output port, when compared to a standard impedance, such as 50 ohms. As such, the impedance attached to the output port could be a transmission line, the antenna itself, or simply a resistor - it doesn't matter which, since the reading you see on the meter is a measure of the impedance mismatch as seen AT THAT PORT. And since our goal is to maximize the power transfer to the load (as represented by the tuner's input impedance), this measurement is entirely appropriate (assuming source impedance of 50 ohms).

2. Neither SWR meters NOR RF CURRENT METERS measure the radiating efficiency of an antenna system. Both an SWR meter and an RF current meter will give nice peak (or null) readings into a 50 ohm dummy load, but a resistor is a poor antenna. A field strength meter would be a better measure, but I'd argue that this should be placed far from the shack to minimize the influence local fields (transmitter, tuner, dummy load...) which may eclipse the actual antenna field.

3. I am by no means an antenna expert. If I'm all wet, let me know! Cheers, Jeff.

From ab4el.com Tue Aug 20 00:00:00 1994
From: NYOUNG@DESIRE.WRIGHT.EDU
Subject: Blather about digital

I'm almost tempted to drop into my tongue retracted down home accent and rage on about how I "wartch Store Treek 'cause'n it has all 'at scientific an' yew needs ta keep up on 'em scientifics jus'ta stay aheayid in thiyis world" but I won't. I'll just say this:

Obviously the editorial about digital intrusions into the safe QRP nest hit home. I just spent the evening listening to RTTY conversations going full bore, side by side, all at once from 7035 to 7045. All those QS0s could have gone in one package of multiplex rtty at 85 Hz each. But no, they were spread out across a chunk of the spectrum to which QRPers have somehow set claim.

Talk about flame shields up! We made enough rtty guys

(just rtty guys, mind you... we're not talking about packet or amtor or whatever yet) angry enough to pull up stakes from a suddenly very unpopulated section of band space and move in on the "QRP band." And yes, the rest of the band was noticeably silent between 7050 and 7100, at least as far as rtty is concerned.

So what's the beef? Well, to quote from my favorite octogenarian ex-junky, here's the set up: About 11 years ago, somewhere in the middle of the last maximum, I turned off the radio and took up printing. I felt that ham radio had become a land of louts and loudmouths who felt that they by gawd owned the spectrum and it was their right to screw it up as they saw fit. All I could find on the air were people prating on about their amplifiers, their antenna installations, their money and fast cars and fast women and high power and on and on and on. I wondered if the size of their antennas was inversely proportional to their sense of gender orientation, but I let that idea slide.

Tonight I am sure. The radios are off. CWIST will do without my two different straight keys, one of them 3 year older than me. I've learned my lesson. Gentlemen and their agreements went the way of the dinosaur and the pterodactyl years ago. I guess it's time to clean up the Intertype machine and get back to people who can communicate.

Have a nice day in digit land.

Nils

WB8IJN &c

and the license comes up for renewal in '95. should I hold my breath?

From ab4el.com Tue Aug 20 00:00:00 1994
From: Stephen Trier <sct@po.cwru.edu>
Subject: Re: Curtis keyers

> Does anyone know what ever happened to Curtis Electro Devices?

They are still out there. Mouser sells their chips now.

> I was hoping to order the circuit board but I can't seem
> to find out if they are still in business.

Oak Hills Research and a number of other vendors sell Curtis keyer kits or boards. Daniel Wee made up some boards for a Curtis keyer a few weeks

ago. If you're willing to etch a board, his plans are up on both sunsite (though I can't remember the path) and gopher.cwru.edu/www.cwru.edu. E-mail me for the details.

There is a catch: The only Curtis keyer chip sold these days is the 8044ABM. The older 8044A and 8044B are no longer available. If you have one of these chips, you might be best off buying a little IC protoboard from Radio Shack and wiring up the keyer yourself.

> On another somewhat related subject does anyone have the address
> and phone number for Idiom Press?

Idiom Press
Box 583
Deerfield, IL 60015

I got this from a Feb 94 QST article by some guy named Jeff Gold. Nice article, Jeff! If it doesn't get people building, I don't know what will.

Stephen

- - -

Stephen Trier The photovoltaic cell is not an electronic device
sct@po.cwru.edu in the accepted sense, since the conduction through
KG8IH it occurs in a semiconductor....
 - Standard Handbook for Electrical Engineers, 1941

From ab4el.com Tue Aug 20 00:00:00 1994
From: rohrwerk@holonet.net
Subject: GLB Synthesizer?

On 08-21-94 jeffrey@math.hawaii.edu wrote to qrp@Think.COM:

> Heath HW-202 2M xcvr with GLB sythesizer, includes both manuals: \$135
> + shipping.
>

Aha, so someone got one to work! I got the GLB Channelizer, which had never actually been used and had no transmit crystal, for \$45 at a hamfest, wanting to get it going with an old commercial VHF radio (RF-1500). Believe it or not, GLB still exists, and they had proper crystals to make the thing work with the odd 20 MHz IF in this rig. I had it working on transmit for a while, and was just getting round to the RX retuning when the final blew out, and other projects grabbed my attention...

Most folks confirm my experience that this item is definitely an experime

```
: John Seboldt rohrwerk@holonet.net / I am Bach of Borg...
: Amateur radio K0JD... / your style will be
: Church of the Annunciation, / assimilated.
: Minneapolis /
```

-> Alice4Mac 2.3 E QWK Eval:05Mar94

From ab4el.com Tue Aug 20 00:00:00 1994
From: "John F. Woods" <jfw@ksr.com>
Subject: Re: HW-8 Repro...

My own thoughts on the idea of trying to reproduce an old heathkit:

It seems to me that the real mark of a Heathkit design was the fabulous mechanical work (or, at least, far in excess of what the hobbyist can generally scrounge together). Unless someone is planning to put together dial-mechanism kits and the like, the actual electronic portions of Heathkit designs are generally too unexciting to be really worth duplicating.

Now there would be an interesting market: high quality chassis with dial mechanisms and knockouts for controls, but no electronics.

From ab4el.com Tue Aug 20 00:00:00 1994
From: mont@netcom.com (Mont Pierce)
Subject: Re: HW-8 Repro...

>
> Regarding Matt and Steve's messages which I've included below:
>
> In my opinion you're missing the point of the 'I-netter'
> Rig design project. The purpose is for the distributed talent of this
> internet group to develop and contribute something new and different
> to the qrp community rather than just ripping off an old Heathkit
> design that is no longer state-of-the-art.

I disagree. I think the intention was to see if there was any interest in reproducing an Hw-8, not as a replacement for the i'net rig, but in addition to it. Some may not be interested in doing a new design, but may be interested in sharing in the fun that other owners of hw-8s are having and have some fun putting together a tried and tested rig.

As a group we can have many goals. We don't have to all be tied down

to only one goal or project do we?!

>

> In response to Steve's comment of why don't we reproduce
> something more modern like an IC-735, that would kind of be like
> a home-built airplane group deciding that instead of building a
> homebrew knock-off of a Cessna 150 that they would try and replicate
> something more modern like a Lear-jet . (Maybe not a real appropriate

Again I disagree. I would absolutely love to see a very high tech rig in kit form. In fact, I sorta felt like that was one of the goals for the i'net rig development. It would be in modular form, some could opt for simpler module designs while others implemented dds vfocs, digital voice processing, computer display/driven functions, etc.

Sorry if this sounds anything like a flame, it is not meant to, it's just my 2 sense worth... :) I hope both projects are very successful. I'd love to get an hw-8 clone kit with improved receiver design (just include the mod instructions with the kit for those of us who want it) while waiting for the high tech version of the i'net rig to jell (or is it gel)..

73,

km6wt

- - -

Mont Pierce

```
+-----+
| Ham Call: KM6WT           Internet:  mont@netcom.com      |
|   bands: 80/40/20/15/10/2                                     |
|   modes: cw,ssb,fm                                           |
+-----+
```

From ab4el.com Tue Aug 20 00:00:00 1994

From: Raymond.Anderson@EBay.Sun.COM (Ray Anderson)

Subject: Re: HW-8 Repro...

Mont km6wt wrote:

... original post deleted ...

>I disagree. I think the intention was to see if there was any interest
>in reproducing an Hw-8, not as a replacement for the i'net rig, but in
>addition to it. Some may not be interested in doing a new design, but
>may be interested in sharing in the fun that other owners of hw-8s are
>having and have some fun putting together a tried and tested rig.

>As a group we can have many goals. We don't have to all be tied down
>to only one goal or project do we?!

Multiple goals/subgroups is good. I interpreted the original
HW-8 proposal as either/or. I guess there were/are other ways
to interpret the comments.

Also I interpreted it as a proposal to just clone the original.
I am still opposed to a straight clone job, however a relayout
incorporating a bunch of popular mods people have developed over
the years would definitely be worthwhile.

... original post deleted ...

>Again I disagree. I would absolutely love to see a very high tech rig
>in kit form. In fact, I sorta felt like that was one of the goals for
>the i'net rig development. It would be in modular form, some could opt
>for simpler module designs while others implemented dds vfocs, digital
>voice processing, computer display/driven functions, etc.

>Sorry if this sounds anything like a flame, it is not meant to, it's just
>my 2 sense worth... :) I hope both projects are very successful. I'd love
>to get an hw-8 clone kit with improved receiver design (just include the
>mod instructions with the kit for those of us who want it) while waiting
>for the high tech version of the i'net rig to jell (or is it gel)..

>73,
>km6wt
>--
>Mont Pierce

Why disagree? I think this is what I was supporting. A state of
the art rig that had the flexibility to be built with as many
or as few hi-tech enhancements as the builders skill and/or
wallet would allow. Again I interpreted the original comments
to advocate a more or less straight across cloning of an existing
piece of commercial equipment. Perhaps I should have taken a
deep breath and a step back before posting.

So perhaps the group should be thinking about multiple development
groups to create 2 (or more) rigs :

The I'net Lo-tech
The I'net Hi-tech

:)

Your comments were appreciated. Didn't see any flames on this end :)
I'm still agitating to get this thing moving. It appears that

the group effort has stalled somewhat. Perhaps I'll just start on a sub module like a front end or and IF amp myself to get the ball rolling.

73's de WB6TPU, Ray

From ab4el.com Tue Aug 20 00:00:00 1994
From: adams@chuck.dallas.sgi.com (chuck adams)
Subject: Heath Unbuilt

I have a SB-104A unbuilt. It's not QRP. :-)

I use the HP-1144 power supply all the time.
It will handle 5W with no problem at all.

dit dit
Chuck Adams K5FO CP-60
adams@sgi.com

From ab4el.com Tue Aug 20 00:00:00 1994
From: JDuffy@aol.com
Subject: Index Labs QRP rig

Can't wait for Index to start shipping rigs again. I love my Index QRP+ and would like to talk with others who have the rig. As soon as you folks get your rigs, send an E-Mail and we can arrange a sked.

Duffy de WB8NUT.

From ab4el.com Tue Aug 20 00:00:00 1994
From: Adrian Weiss W0RSP English Department <AWEISS@charlie.usd.edu>
Subject: RE: Ingram's end-fed dipole -- any users?

Kevin:

I can't quite draw this antenna as per the description. For instance, the "r.f. choke" is at the end of a 1/4 wave of coax, but the 2 quarterwaves are "one continuous piece of coax." ["r.f choke" -- it's just a coil with negligible reactance at the operating frequency, in which case, it doesn't

choke any r.f.; why would one want an r.f. choke between a transmitter and an antenna in the first place, since the whole point is to deliver r.f. to the antenna?]

My basic response: this looks like a fantasy on Ingram's part. For one thing, it certainly is not a dipole by any definition. A dipole has two equal wires fed at the middle, which is why it is called a dipole rather than a monopole.

I suspect that Ingram has followed his usual uninformed "let's see what happens" in coming up with this "design." The so-called "r.f. choke" probably affected the SWR in such a way that Ingram thought it made it work better.

Bottom line: forget it.

If you want to put up an end-fed antenna because of space and structures, just do a regular old end-fed through a tuner. Either bring the wire right down into the shack and feed it thru a tuner, or feed it thru twinlead/open line connected to a tuner.

Incredible! 73 Ade

From ab4el.com Tue Aug 20 00:00:00 1994

From: Adrian Weiss WORSP English Department <AWEISS@charlie.usd.edu>

Subject: Re: Ingram's end-fed dipole -- any users? (Follow)

Kevin:

AHAH! I read the next posting after writing my first reply. Just as I suspected! Ingram thinks that pruning the so-called "r.f. choke" for best SWR indicates that the system is working! "Isolate the antenna from the end of the coax"? Incredible buncomb! Forget it. This is perfectly ridiculous and illustrates how a bunch of numbers which seem to make sense cover up the basic ridiculousness of the idea. Ingram never has understood what SWR is all about. Nuff said. Stick to the basic designs in an antenna book -- you can't get something for nothing, and everything regarding antennas has been pretty well known since the 1930's except for field-strength pattern data that couldn't be collected without fairly modern instrumentation and special test environments such as the r.f. anechoic chamber as well as air-borne instrumentation.

73 again, Ade

From ab4el.com Tue Aug 20 00:00:00 1994

From: Adrian Weiss WORSP English Department <AWEISS@charlie.usd.edu>

Subject: Re: Ingram's end-fed dipole -- any users? (Follow)

OK, OK, Bruce!

Can't a guy exaggerate just a little? Quite true on the yagi and quad "discoveries". But don't forget that the theory of directive antennas was not what was discovered, rather, the application of basic principles. That application is one of the great contributions of hams to radio. Pretty much the same is true about shortened verticals and the effect of the ground plane.

As far as simple antennas are concerned, not much new.

I suspect that the spawning of antenna design computer programs recently may lead to some advances. What a hobby!

Keep me honest! 73 Ade

From ab4el.com Tue Aug 20 00:00:00 1994
From: Brad Mitchell <bmitchel@CBA.Kodak.COM>
Subject: Lots of new HW-7's , 8's and 9's for everybody.

Now that I have your attention..
What do you guys think of this idea?

1. Find an unassembled HW-8.. There has to be one out there.
2. Re-produce the board via scanning the artwork.
3. Have the artwork available for home brewing , and for someone like FAR to re-produce so that those non pcb homebrewers could get boards.

Then everybody could have a new HW-8, and play with all the mods, and not worry about destroying a piece of history.

What do you all think?

Let's not get into a legal battle discussion BTW. But assuming that permission was not a problem, what do you think??
73 Brad WB8YGG

From ab4el.com Tue Aug 20 00:00:00 1994
From: randg@oakhill-csic.sps.mot.com (Rand Gray-Dev_Tools)
Subject: Re: Lots of new HW-7's , 8's and 9's for everybody.

Brad WB8YGG writes:

- > 1. Find an unassembled HW-8.. There has to be one out there.
- > 2. Re-produce the board via scanning the artwork.
- > 3. Have the artwork available for home brewing , and for someone like FAR
- > to re-produce so that those non pcb homebrewers could get boards.

I have never had an HW-8, but having built a few Heathkits it seems to me that artwork was typically well represented in the Heathkit manuals. Does someone have an HW-8 who can verify this?

The point being that you don't necessarily need an unassembled one...

Heath probably DOES own a copyright on the layout, though, so I think permission ought to be obtained.

72/73,
Rand W1GXX

From ab4el.com Tue Aug 20 00:00:00 1994
From: F_SPEERJR@TITAN.SFASU.EDU
Subject: Re: Lots of new HW-7's , 8's and 9's for everybody.

>Brad WB8YGG writes:
>
>> 1. Find an unassembled HW-8.. There has to be one out there.
>> 2. Re-produce the board via scanning the artwork.
>> 3. Have the artwork available for home brewing , and for someone like FAR
>> to re-produce so that those non pcb homebrewers could get boards.
>
>I have never had an HW-8, but having built a few Heathkits it seems to me
>that artwork was typically well represented in the Heathkit manuals. Does
>someone have an HW-8 who can verify this?
>
>The point being that you don't necessarily need an unassembled one...
>
>Heath probably DOES own a copyright on the layout, though, so I think
>permission ought to be obtained.
>
>72/73,
>Rand W1GXX

Don't you think, though, that one might have trouble now finding all the parts one needs to populate that old board?

And don't you agree, as discussed recently in this group, that we've learned a lot since then...about mixers, for example?

72!

- - -

If RST>519
Then cut_power;

Jim Speer, K5YUT
f_speerjr@ccsvax.sfasu.edu

From ab4el.com Tue Aug 20 00:00:00 1994
From: Mark Monninger <markm@bigfoot.sps.mot.com>

Subject: Re: Lots of new HW-7's , 8's and 9's for everybody.

I think that's a great idea. Where do I send my order?

When I was first licensed a few years ago, a friend of mine loaned me his HW-9 for a couple months. It was a great little radio. I had lots of fun with it and worked lots of DX on 5W. After I gave it back he sold it and has regretted it ever since.

73... Mark AA7TA

From ab4el.com Tue Aug 20 00:00:00 1994
From: NYOUNG@DESIRE.WRIGHT.EDU
Subject: More gibbering in the corner

Ok, so I'm a reactionary, but dang-nabbit, people who can't see the pleasure of a CW qso just because it's not the hot shot big time money spender of the "state of the art" make about much sense to me as people who can't understand why I would spend four days of non-stop lifting to save 100 fonts of type cast in the 1890s from being turned into musket balls. Some people just like things quiet and simple and the rest like to buy up all the newest fancy-pants doodads they see. That's their problem, and I'm just so happy for them. Let 'em have digital. Just as long as they don't think I'm an old-fashioned curmudgeon 'cause I like cw. So there.

Now, on to new bidness: I got my NN1G kit from Dan's SP&K and am about to box it up. Well, kinda. I gotta put it on the piece of 1x6 pine that serves as a test bed. So here's the questions

1. I would like to use a tunable inductor for L1 (the VFO tank coil). Anyone want to tell me not to and why? I'm good for that. The idea of dinking around with the toroid windings to get the beast on freq kinda honks my horn, y'knowwhaddI mean?
2. The two output PI network coils are T37-2s. There's supposed to be two of them. I only got one. (I'm sending another order to Dan to get that fixed and get some more stuff. Gotta havit!) I stuck a toroid in that was used in the R7 preamp. Hope it doesn't have bad effects.
3. I'm mounting the VFO/RX board in a box, same as I did for the Howes kit and same as I do for most of the other stuff that I have laying around that I designed & built and doesn't work. The transmitter board will be screwed down to the side of the VFO/RX box. Suggestions? (I eventually wanna put the set up in a box with a keyer and an AF fliter too. I have the box parts already, it's just a matter of conning some mill work out of a friend. The aim is a portable, picnic table station

for 30 meters that plays neat stuff like my ARK4 but doesn't have push-button freq selection.)

Next item: (Did I just hear that on the McLaughlin Group?) I have wondered about the 30 meter QRP freq myself. Around this neck of the woods, there's a helluva RTTY station right on 10.105 and up. I think it might even be ISB, but I don't have an FRR1051 to listen to it on. Anyway, most of the time there's this gawdawful pile of marks and spaces cluttering up 10.106. Maybe it is 10.116 and we've all been deluding ourselves all this time. (I suspect a plot on the part of the reactionary she-devils of Narn or some similar paranoid ranting. Or maybe it's those digital dummies! Yeah, that's it. Gotta be. I heard it on Rush.)

Last item: Quotes from "Quotations from Chairman Mao Tse-Tung":
"We must oppose the tendency towards selfish departmentalism by which the interests of one's own unit are looked after to the exclusion of those of others..." (244)
"All reactionaries are paper tigers. In appearance, the reactionaries are terrifying, but in reality they are not so powerful. From a long-term point of view, it is not the reactionaries but the people who are really powerful." (72)

Have a really nice day. And thank you for shopping Shorts R Us.

Nils
WB8IJN &c

From ab4el.com Tue Aug 20 00:00:00 1994
From: rohrwerk@holonet.net
Subject: My R2 (almost) complete!

Well thanks to N8ET at Kanga US, my R2 receiver is virtually complete.

I have run it quite satisfactorily for about 7 months with simpler mixer terminating networks. As you may or may not know, the R2 goes to great pains to terminate the diode ring mixers from DC to daylight, and add some audio selectivity to boot. However, you have to match some expensive high-value inductors and capacitors. That I kind of balked at, and got by with the simple solution for quite some time. I probably sacrificed some overload capability, but very seldom did I hear anything (on our recent lousy bands, anyway) that could be attributed to overload.

But in the back of my mind I wanted to do it "right". And, since N8ET was willing to supply me with the matched components, saving me the trouble of

buying tons of expensive parts to match them up, that was my excuse to plunge in and "finish" it. (Except for one capacitor that is yet to arrive! That one is a capacitor that determines high-frequency rolloff) The only difference so far I notice is less low-frequency response. No doubt the high end will also roll off once the last cap is in place.

I have mixed feelings on this completion. The diplexers D0 (will?) make for elegant termination, and extra selectivity within the audio communication range.

But I loved one aspect of the earlier setup when conditions were good: the ability to listen all the way up to 10 kHz or more, and down to 100 Hz or lower, with all audio filtering removed. From the beginning, I had mine setup to switch out the filters later in the chain (a highpass at 300 Hz, and a lowpass at either 3 or 1 kHz), and what a remarkable option it was. My ears could serve as a mini spectrum analyzer, hearing when a CQ would come on within my 10-15 kHz bandpass. What an incredible "window on the band".

And the fidelity of the stronger shortwave broadcasters was a joy to hear -- resonant voices with crisp sibilance (though they probably cut off at 5 kHz, the illusion of better fidelity continues because of the noise components higher than that.) The stability of my T-368 VFO makes good SW listening possible, especially with a 10-turn pot for receive fine tuning. Now I still have most of the crispness, but less low end response because of the part of the diplexers that is in place.

Admittedly, not everyone hears as I do, being a professional musician. But I'm sure that the R2, even in its comp

```
: John Seboldt rohrwerk@holonet.net / I am Bach of Borg...
: Amateur radio K0JD... / your style will be
: Church of the Annunciation, / assimilated.
: Minneapolis /
```

-> Alice4Mac 2.3 E QWK Eval:05Mar94

From ab4el.com Tue Aug 20 00:00:00 1994
From: BHOWLE@delphi.com
Subject: NW80/20 What It Is ? ? ?

Gang-

Saw a write up in the summer edition of Dan's Small Parts catalog about a new kit that will be available in September. It's called the NW80/20 and from the discription it sounds like it'll be a easy kit to build.

As with any new kit I'd like to have it, but I'm not interested in being the first person on my block to get one with out first hearing more about the rig.

Do any of you know about this radio - will it be featured in a magazine construction article or what.

BCNU/BOB/WA4ZID

From ab4el.com Tue Aug 20 00:00:00 1994
From: Stephen Trier <sct@po.cwru.edu>
Subject: One smoke test passed, one failed...

It has taken several weekends, but I finished building my 30m OHR Spirit. Today I took a deep breath and tried the smoke test, and it passed! I even heard a faint (but reassuring!) hum in my headphones.

The bad news is that I started to align it and discovered two problems. First, I don't have a frequency counter (but I should get one anyway), and second, my scope picked today to die.

I'll have to see if I can get someone to let me use a lab somewhere on campus to get this thing aligned. In the meantime, can anyone offer advice on how to repair a Tek 434 horizontal section?

Stephen

- - -
Stephen Trier The photovoltaic cell is not an electronic device
sct@po.cwru.edu in the accepted sense, since the conduction through
KG8IH it occurs in a semiconductor....
 - Standard Handbook for Electrical Engineers, 1941

From ab4el.com Tue Aug 20 00:00:00 1994
From: Mike Cummings <cummings@u.washington.edu>
Subject: Oner Kit (was:RE:CQC Low Down Editorial)

On Fri, 19 Aug 1994, Robert Cutter wrote:

[quotes almost 5 pages of text to add:]

> Flame shield up!

If you're going to leave that much text included and only add three

words, I think a flame shield is definitely in order.

OBQRP: I'm looking to build a rig I to take backpacking in the mountains, and the Kanga Oner looked like a good way to go. I haven't built a real rig before, although I'm not afraid to wield a soldering iron. Is this a good kit for a start?

Mike Cummings NX7E cummings@u.washington.edu
"When you die, if you get a choice between going to regular heaven or pie heaven, choose pie heaven. It might be a trick, but if it's not, ummmmm, boy." - Jack Handey, a new spin on Pascal's Wager

From ab4e1.com Tue Aug 20 00:00:00 1994
From: KE4IOF@aol.com
Subject: QRP Kits

I just attended the Huntsville, AL Hamfest. One of the most interesting displays was the T-Kit area set up by Ten-Tec. This company is really trying to bring back kit building. All the kits I saw were professionally engineered and range in price from \$7.00 to \$195.00, with most under \$20.00. If you're interested in building your own QRP gear (and most of us are) get their catalog.

Mark, KE4IOF

From ab4e1.com Tue Aug 20 00:00:00 1994
From: K7YHA@aol.com
Subject: QRP Vol-I & II

The following have volumes of Low-Power Communications have been sent to the following:

KA6NOC Vol-I
AB5OU Vol-II
WA3JPG, KB0IWQ, N9RKB Vols-I & II

Limited quantities of Vol-I & II are still available:
\$30 for the set of Vols-I & II
\$15 for Vol-I
\$20 for Vol-II
Includes postage.
Send to: Rich Arland

25 Amherst Ave
Wilkes-Barre, PA 18702

72 Rich

From ab4el.com Tue Aug 20 00:00:00 1994
From: jeffrey@math.hawaii.edu (Jeffrey Herman)
Subject: re: QRP meter

How about just using a spare VOM (with some mods) as your RF ammeter?
It will measure down to the uA.

Jeff NH6IL

From ab4el.com Tue Aug 20 00:00:00 1994
From: "Behrens J\vrg" <bhs@fh100.ubszh.net.CH>
Subject: QRPP, NY ham store

Just got my Sept. QRPP issue. Absolutely great!!! Thanks to Doug!
Looks like we Europeans are somewhat behind - it's Aug 19 here ;-)

I have to go to NY City in September. Anybody out there who could
tell me about a good ham/small parts- store close to the City? (I
will have limited time in the evenings only.)

73, Joerg

From ab4el.com Tue Aug 20 00:00:00 1994
From: jcumming@clark.dgim.doc.ca (Jim Cummings)
Subject: RE:CQC Low Down Editorial

I am only one QRP digital operator, and I refuse to speak for all
fellow digital ops, but I feel I must reply to WOHEP's editorial where he
proposes to preserve CW-only sub-bands from digital operation. WOHEP
proposes:

1. Send a card to digital operators who operate below 14.070 that they
are operating outside of "gentlemens' agreements",
2. Petition the FCC for an exclusive qrp cw sub-band, or

3. Petition the FCC for a digital only band, where digital operation outside of that band would be forbidden.

WOHEP is concerned of the digital incursions because CW, in particular CW QRP will be crowded out of "their" bands. In addition, he states that state of the art QRP receivers cannot cope with strong digital signals!

I wish to state my bias. I am one of those who WOHEP describes as a beleiver that "... the c.w. mode is antiquated". Yes, that is my belief.

I contend that further advancement of radiocommunications will unlikely be undertaken in investigating newer methods of CW transmission. On the other hand, many recent advancements have centred on digital modes, i.e. packet, amtor and pactor, and other means such as meteor scatter, satellite and others too numerous to mention. Furthermore, by 1999, it would seem that the only service to use CW will be the amateur service, while other services will have abandoned CW altogether.

Many will state that CW transmitters are easy to build and the is the pride of building that goes into making your own station. For that matter, a digital transmitter/receiver is not all that more difficult to build than a CW rig. In so far as pride of "buildership" is concerned, if you want it, go for it. But please don't shove that old chestnut down my throat because it is not a motivator for me.

With respect WOHEP's contention that QRP receivers cannot cope with strong digital signals, my reaction is that the assessing blame on the digital signal is unacceptable. If the QRP reciever cannot cope, then the fault is with the design of the receiver. If we are true to the ideals of amateur radio, rather than getting rid of the so-called problem (the digital signal), we should be experimenting with designs that would stand up to these challenging environments. If I may draw a parallel, we amateurs are very concerned and even upset with the proliferation of consumer electronic equipment that cannot cope with neary amateur signals.

Therefore, we should be consistent with equipment that we use - don't take it off the air, fix the problem!

I would like to comment on the three suggestions as presented.

Gentlemen's agreements are fine. They help smooth out bumps in the roads and help build mutual respect. On the other hand, WOHEP expects that these agreements will be cast in stone forever! By his own admission, more and more amateurs are using digital modes. I beleive that it is not justifiabile to cram more and more digital stations in the same spectrum (about 30 kHz) that has been used for digital operations for the last 40 years, while fewer and fewer stations that use CW feel entitled to to use 70 kHz. It is amusing that he contends that digital ops will claim "squatters rights" if they keep on going down below 14.070 MHz, yet he uses the same claim to keep them from going below these frequencies in

order to preserve digitally free CW spectrum.

With respect to petitioning the FCC to regulate a QRP CW sub-band, I can only say (without being insulting) GET SERIOUS! From everything that I have read about the FCC, it would be a non-starter. What is the merit to this proposal? Even more importantly, how would it be enforced? Besides, this regulation would be only applicable to stations located in the US. I would be under no compulsion to operate in accordance with US rules and regulations. In fact, just as we have done here in Canada, the trend is to get out of sub-band deregulation.

Finally, a digital only sub-band wouldn't work either. Recently there was a move to do so for unattended operation with the blessing with ARRL. The outcry was so bad against the proposal that the ARRL ended up with egg on its face and asked that the proposal be withdrawn. Furthermore, operation of amateur stations outside of the US are, as explained above, free to operate without giving a second thought to US regulations. Therefore, any means of regulating sub-bands or operation would be ineffectual.

In closing, I wish to affirm my observation that CW is not as popular as it once was and it won't be too long in the future that it will be viewed by the amateur community as a quaint oddity. In addition, I have no doubt that taking steps to warns other modes of incursions into other sub-bands or by further regulating sub-band allocations would be a waste of resources and effort.

72

Jim VE3XJ
DXCC (RTTY)
WAS (RTTY)
WAC (RTTY)
WAZ (RTTY #45)
65 countries confirmed on QRP RTTY
et cetera. et cetera, ad nauseum

Don't get too excited, because, remember, today is the first day of the rest of your life.

From ab4el.com Tue Aug 20 00:00:00 1994
From: Robert Cutter <bcutter@csn.org>
Subject: RE:CQC Low Down Editorial

On Fri, 19 Aug 1994, Jim Cummings wrote:

> I am only one QRP digital operator, and I refuse to speak for all
> fellow digital ops, but I feel I must reply to WOHEP's editorial where he
> proposes to preserve CW-only sub-bands from digital operation. WOHEP
> proposes:
>
> 1. Send a card to digital operators who operate below 14.070 that they
> are operating outside of "gentlemens' agreements",
>
> 2. Petition the FCC for an exclusive qrp cw sub-band, or
>
> 3. Petition the FCC for a digital only band, where digital operation
> outside of that band would be forbidden.
>
> WOHEP is concerned of the digital incursions because CW, in particular CW
> QRP will be crowded out of "their" bands. In addition, he states that
> state of the art QRP receivers cannot cope with strong digital signals!
>
> I wish to state my bias. I am one of those who WOHEP describes as a
> beleiver that "... the c.w. mode is antiquated". Yes, that is my belief.
> I contend that further advancement of radiocommunications will unlikely
> be undertaken in investigating newer methods of CW transmission. On the
> other hand, many recent advancements have centred on digital modes, i.e.
> packet, amtor and pactor, and other means such as meteor scatter,
> satellite and others too numerous to mention. Furthermore, by 1999, it
> would seem that the only service to use CW will be the amateur service,
> while other services will have abandoned CW altogether.
>
> Many will state that CW transmitters are easy to build and the is the
> pride of building that goes into making your own station. For that
> matter, a digital transmitter/receiver is not all that more difficult to
> build than a CW rig. In so far as pride of "buildership" is concerned, if
> you want it, go for it. But please don't shove that old chestnut down my
> throat because it is not a motivator for me.
>
> With respect WOHEP's contention that QRP receivers cannot cope with strong
> digital signals, my reaction is that the assessing blame on the digital
> signal is unacceptable. If the QRP reciever cannot cope, then the fault
> is with the design of the receiver. If we are true to the ideals of
> amateur radio, rather than getting rid of the so-called problem (the
> digital signal), we should be experimenting with designs that would stand
> up to these challenging environments. If I may draw a parallel, we
> amateurs are very concerned and even upset with the proliferation of
> consumer electronic equipment that cannot cope with neary amateur signals.
> Therefore, we should be consistent with equipment that we use - don't
> take it off the air, fix the problem!
>
> I would like to comment on the three suggestions as presented.

>
> Gentlemen's agreements are fine. They help smooth out bumps in the roads
> and help build mutual respect. On the other hand, WOHEP expects that
> these agreements will be cast in stone forever! By his own admission,
> more and more amateurs are using digital modes. I beleive that it is not
> justifiable to cram more and more digital stations in the same spectrum
> (about 30 kHz) that has been used for digital operations for the last 40
> years, while fewer and fewer stations that use CW feel entitled to
> to use 70 kHz. It is amusing that he contends that digital ops will claim
> "squatters rights" if they keep on going down below 14.070 MHz, yet he
> uses the same claim to keep them from going below these frequencies in
> order to preserve digitally free CW spectrum.
>
> With respect to petitioning the FCC to regulate a QRP CW sub-band, I cam
> only say (without being insulting) GET SERIOUS! From everything that I
> have read about the FCC, it would be a non-starter. What is the merit to
> this proposal? Even more importantlty, how would it be enforced? Besides,
> this regulation would be only applicable to stations located in the US.
> I would be under no compulsion to operate in accordance with US rules and
> regulations. In fact, just as we have done here in Canada, the trend is
> to get out of sub-band deregulation.
>
> Finally, a digital only sub-band wouldn't work either. Recently there was
> a move to do so for unattended operation with the blessing with ARRL. The
> outcry was so bad against the proposal that the ARRL ended up with egg on
> its face and asked that the proposal be withdrawn. Furthermore, operation
> of amateur stations outside of the US are, as explained above, free to
> operate without giving a second thought to US regulations. Therefore, any
> means of regulating sub-bands or operation would be ineffectual.
>
> In closing, I wish to affirm my observation that CW is not as popular as
> it once was and it won't be too long in the future that it will be viewed
> by the amateur community as a quaint oddity. In addition, I have no doubt
> that taking steps to warns other modes of incursions into other sub-bands
> or by further regulating sub-band allocations would be a waste of
> resources and effort.
>
> 72
>
> Jim VE3XJ
> DXCC (RTTY)
> WAS (RTTY)
> WAC (RTTY)
> WAZ (RTTY #45)
> 65 countries confirmed on QRP RTTY
> et cetera. et cetera, ad nauseum
>
> Don't get too excited, because, remember, today is the first day of the

> rest of your life.

>

>

>

Flame shield up!

72, KI0G

From ab4el.com Tue Aug 20 00:00:00 1994
From: mjsilva@ted.win.net (Michael Silva)
Subject: Re: RF power transistors?

>Hi gang,

>Anyone have a favorite cheap RF power transistor? I'm thinking of 5-15 watt
>range, 12V supply. MRF475/476 aren't the latest or the cheapest anymore. I
>did pick up some old GE D44C's at a flea this weekend, and somehow managed
>to lose them on the way home!

>

Along the lines of the D44C's, I've just picked up some MPSU-02's and
MPSU-05's. These are Uniwatt (1 watt @Ta=25, 10 watts @Tc=25) devices
with minimum fT's of 100 and 50 MHz, respectively. The -02 is good for
800mA and the -05 will do 2A. Using the rule of thumb $P_o \leq 1/2 P_d$,
you could try to get 5 watts out of one with good heatsinking, or put a
pair in push-pull. I've saved the best for last: price on the -02's
is 25 cents each (Debco, 1-800-423-4499), and on the -05's it's 15
cents each (Dan's SP&K). At that price they've become my generic
mid-power transistor for DC, AF and RF. BTW, W1FB's Notebooks often
mention both of these devices as suitable for RF work.

One last item: I also recently picked up some 2N5109's for 35 cents
each from Halted Specialties in CA. They were listed in their catalog
but over the phone I was told they had no more. About a month later I
was in their Santa Rosa store and found a drawerful of them, so I picked
up a helping (but left lots for the next guy). Don't know how many more
they have. Don't have their number here but it's in the 707 area code.

73,

Mike, KK6GM

From ab4el.com Tue Aug 20 00:00:00 1994
From: Michael Stein

<OSYSMAS@MVS.OAC.UCLA.EDU>

Subject: Re: Random wire tuner? (qrp i meter?)

> Good point. If people do a goodly amount of junkbox searching and digging
> at hamfests, it is rather easy to come up with a 0-1 or 0-3 RF ammeter.
> These are good for the average 50-100 watt rig, but QRP won't budge them.
> They make very nice indicators on the OUTBOARD side of the tuner in
> coax fed installations. Finding a good 0-100ma RF ammeter for QRP use
> is another story. They exist but are rare as hen's teeth.

What about those "battery testers" built into the battery packaging by Duracell? I remember playing with one (D cell?) and it would measure about 250 ma just fine. Perhaps one of the smaller ones could be used for 0-100 ma RF? (I'm assuming these would work at RF since they are just a strip of resistance element...).

PS: I didn't think this up -- I remember seeing some idea like this in the past year or so in some magazine...

From ab4el.com Tue Aug 20 00:00:00 1994
From: rohrwerk@holonet.net
Subject: Re: Random wire tuner? et

On 08-18-94 rdkeys@csemail.cropsci.ncsu.edu wrote

> ... on zero length feedlines swr
> is meaningless, and the way to tell maximum power transfer (best match
> to any given generating device --- modern or boatanchor) is to use an
> rf ammeter or a field strength meter.

Interesting discussion...

In my solid state rigs (2 homebrew, and a Ten-Tec Argosy), I have not always gotten a peak antenna current reading coinciding with lowest SWR at 50 ohms. My theory: that the output impedances are not exactly 50 ohms! With broadband output transformers that have relatively few turns, you can't possibly wind them for an EXACT 50 ohm impedance transformation, plus the usual variables in transistor characteristics, final PA voltage, etc.

Thoughts?

: John Seboldt rohrwerk@holonet.net / I am Bach of Borg...
: Amateur radio K0JD... / your style will be
: Church of the Annunciation, / assimilated.
: Minneapolis /

-> Alice4Mac 2.3 E QWK Eval:05Mar94

From ab4el.com Tue Aug 20 00:00:00 1994
From: Adrian Weiss W0RSP English Department <AWEISS@charlie.usd.edu>
Subject: Re: Random wire tuner? et

Interesting thread.

The suggested methods of matching end-fed wires are correct. Remember the basic principle: the L/C combination in either configuration is simply extending the "feedline" to a point where the complex impedance is something that the transmitter can feed.

That seems a bit obscure, but any chapter on feedlines in ARRL Handbooks or antenna books covers the subject in detail.

One point should be clarified, namely, the "zero" or "null" length of coax. It doesn't exist.

In fact, short pieces of feedline, regardless of how short, introduce a reactive component to the wave traffic if any degree of termination mismatch is present. If the L/C matching circuit does indeed transform the impedance of the feedline, or the shack end of an end-fed wire as in this discussion, to exactly the characteristic impedance of the coax between transmitter and matching circuit, then the short length exhibits only incident wave traffic. No reflections. But this condition generally can be achieved with any length of coax between transmitter and matching circuit. It is just easier to have the matching circuit beside the transmitter rather than up in the sky at the end of the radiating wire! A matter of convenience. On the other hand, if the matching circuit does not transform to exactly the characteristic impedance of the coax, reflections occur. Similarly, a mismatch between the output circuit of the transmitter and the coax surge impedance will affect power transfer.

The point made in the discussion regarding that mismatch is a good one. Bear in mind that two impedance transformations occur: 1) antenna thru tuner to coax, 2) coax to transmitter output. The short piece of coax can function as an impedance transformer so long as a mismatch is present at the terminating end, e.g., the antenna tuner. By mis-adjusting the tuner so that the SWR between tuner and transmitter is greater than 1:1, a standing wave situation is created and a complex impedance then is presented to the transmitter. The reactive component is either inductive or capacitive. Which ever it is, the short piece of coax becomes an extension of the transmitter output matching network, adding series inductive or shunt capacitive reactance -- the same effect as changing the values of whatever inductance/capacitance combination comprises the tx output matching network. The end result is greater power transfer. The only way to know that is what is happening is by the suggested methods of measurement -- r.f. current in the feedline, or a field strength meter.

Incidentally, the effect of short pieces of coax as impedance transformers can be very quickly grasped in antenna impedance measurements using an "RX" bridge, a device which is capable of measuring both the resistive component and the reactive components presented at an antenna's terminals. For example, set up a quarter-wave vertical over 45 radials, or on the roof of a mobile home, and then do two sets of measurements, the first using a short (1-ft or so) piece of coax, and the second using a direct connection between vertical base and RX bridge via two PL-259's soldered back-to-back using a short piece of copper tubing. A very significant difference in results! The latter exactly on target (36-Ohms), the former varying with the length of coax. Which is why such measurements should either be done with the rigid zero-length connection, or thru an exact quarterwave feedline (cut with the RX bridge or grid-dipper).

Neat stuff -- antennas is what QRP is all about. The more you try, the more you need to know about measurements, and the more fun you have QRP'ing! My motto used to be: "Up on the roof and in the trees while the weather holds cause I can always operate in winter!"

73, Ade

From ab4el.com Tue Aug 20 00:00:00 1994
From: Adrian Weiss W0RSP English Department <AWEISS@charlie.usd.edu>
Subject: Re: Random wire tuner? etc, ad nauseum

This thread is quite interesting. I'd emphasize two points.

1) Minimum SWR does NOT always correlate with maximum field strength. There are various reasons for this divergence. For one, the SWR meter measures the degree of mismatch between transmitter output circuit and the antenna tuner which transforms the feedline impedance to something acceptable to the transmitter. The SWR does NOT provide any information about what is happening on the feedline connected to the output side of the tuner. Nor does it say anything about the amount of incident power being transferred to the antenna itself.

Unless an antenna tuner is well designed, stray r.f. currents will circulate in the tuner itself without ever reaching the feedline. From my experience, such circulating r.f. currents, which affect the complex impedance presented to the transmitter output, can produce a lower SWR than that which obtains at maximum power transfer to the feedline. This phenomenon is fairly well documented in ham literature over the years.

Those who argue for tuning for maximum field strength are in the right. It is possible, for example, to shunt the output of the tuner with a pure resistance of appropriate value and get a perfect 1:1 SWR reading. Very little r.f. goes to the antenna. This is not a far-fetched scenario: maybe some of you will recall the battles about the matching balun guaranteed to produce a very low SWR (1.2:1 max, or something like that) on every band and every antenna. When the ARRL blow-torched (no exaggeration) a sample apart, they discovered that the antenna actually was fed in parallel with a fairly high-power dummy load.

So, regardless of the actual antenna impedance, most of the power was being dissipated in the balun. A lot of guys shelled out a lot of bucks for the beauty of all-band 1.2:1 SWR without messy tuning or knobs or adjustments, and most of those guys swore by the balun. Of course, they were running KW's with all the bells and whistles -- in which case, they could have saved the energy of putting up an antenna and just left the feedline lay on the shack floor.

2) R.f. ammeters are very difficult to come by. A simple substitute that has been used since "day-1" uses a flashlight bulb as a current indicator. The instrument is quite simple but has the limitation of not being usable when a coax feedline is involved. However, it works naturally with twinlead or open ladder line. Two ways. 1) mount the bulb in a socket with 2-inch or so leads. 2) solder 2-inch leads to the bulb itself (touchy approach). Alligator clips are attached to the ends of the leads

The idea is to connect the bulb across a longer section of one conductor of the feedline. In other words, 4-in of leads + alligator clips across a 12-inch section of conductor.

The measurement point can present a problem at QRP levels. At current nodes, 1-watt probably won't give a noticeable glow in the bulb filament. However, if the measurement point can be shifted closer to a current maximum, a useful reading will result with 1-watt. The tuner is adjusted for maximum glow. I've never had a bulb actually light up with 1-watt -- instead a dull red or orange and sometimes a white glow is the result. Also, adjustment at dusk makes it easier to see what is happening. The adjustment for maximum current indication always coincides with maximum field strength, but not with minimum SWR.

73, Ade

From ab4el.com Tue Aug 20 00:00:00 1994
From: Adrian Weiss WORSP English Department <AWEISS@charlie.usd.edu>
Subject: Re: Random wire tuner? etc, ad nauseum

Hi Steve:

Yes, the r.f. ammeter is actually inserted into the feedline.

I didn't mention that the flashlight bulbs can also be inserted into the feedline. At times when I couldn't get any shunt reading at all, I'd just hook a pair of bulbs between the tuner output terminals and the feedline.

However, this measurement method introduces a slight bit of a problem in both cases that should be borne in mind. Both the bulb and r.f. ammeter place a resistance in series with the feedline conductor/s. Further, the bulb is not a pure resistance since the filament is a coil/inductor exhibiting some reactance. Thus the actual impedance seen by the tuner is not exactly that which is presented by the naked end of the feedline. If bulbs or r.f. ammeters

are inserted in both conductors though, the balance in currents is maintained and the effect of the inserted resistances is simply to make the feedline seem a bit longer than it is.

In practice, the actual variation caused by the inserted resistances can easily be determined by noting the different tuner settings that are required with and without the inserted resistances. It shouldn't be much at all. Since the SWR bridge between the transmitter and the tuner indicates the degree of mismatch between transmitter output and tuner input, tuning for the same SWR with and without the inserted devices provides an indication of equality.

The nice thing about balanced feedlines is that the measurement of current is easily accessible. It takes some real effort with coax.

Thanks for mentioning the battery recharger meter as a source. I didn't know about that one -- great idea!

73, Ade

From ab4el.com Tue Aug 20 00:00:00 1994
From: rohrwerk@holonet.net
Subject: TECK 'SCOPES

On 08-16-94 bob.berlyn.303@chowda.com wrote to qrp@Think.COM:

> Bruce: I have a Tecktronics 545A with a 1A1 dual trace unit. I
> traded two Boat anchors for it. A Valliant (Not workig) and a Ranger
> (that worked well). I am not really sure what the scope is worth but
> I get the impression not much. I looked at the price of new
> compatable scopes and thought I made a reasonably good deal.

My Tek 533A scope I got for \$50 with two plug ins -- alas, no dual trace unit -- and worked fine. Good to 15 MHz only, though. Later, I saw a Lavoie LA-265A - - - the knob layout and labelling is almost exactly the same as my Tek 533A with a few more features (the dual time base among others), advertised as not working; I wanted the dual trace plug in, and he gave me the whole thing for \$25. It works fine in my 533A -- though I put BNC's on in place of those "genderless" connectors that look like little flowers...

I get the feeling the LA-265A scope might be good to 30 MHz if I bother to fix it. Anybody know that for sure?

: John Seboldt rohrwerk@holonet.net / I am Bach of Borg...
: Amateur radio K0JD... / your style will be
: Church of the Annunciation, / assimilated.
: Minneapolis /

-> Alice4Mac 2.3 E QWK Eval:05Mar94

From ab4el.com Tue Aug 20 00:00:00 1994
From: "CLAY WYNN" <ID0077@ibbs1.com>
Subject: TEST MESSAGE

Tis is a test message.

- - -

+-----+
+ From IBBS#1 Metro Chicago +
+ ADDRESS REPLIES TO ID0077@IBBS1.COM (CLAY WYNN) +
+-----+

From ab4el.com Tue Aug 20 00:00:00 1994
From: Adrian Weiss W0RSP English Department <AWEISS@charlie.usd.edu>
Subject: RE: Teck 'scopes

Hi Bruce:

As for the 545B at \$75, snap it up. A very fine dual-trace scope -- only 30MHz if I recall correctly, but can stretch that a bit with the multiplier function. I've been using one since about 1976.

The main problem usually relates to the hours of use the thing has on it. After a while, aging of sockets etc introduces some resistance which degrades overall amplifier gains. What I did with mine was simply to draw a calibration curve/chart which I use when I want accurate read-outs. The calibration source was a constant-output frequency generator. The amount of amplifier loss was different for the various scales [e.g., 1mv, 1v etc] so I did several.

In benchwork situations, it is more practical to use a r.f. probe hooked to a high-quality VTVM such as a 410b or 410C or later, or a DigitalVM if you want really accurate readouts. However, precision is rarely if ever necessary in testing out a QRP circuit. If something is wrong, the problem will usually be indicated a fairly large variation in voltage from what one would expect.

In the final analysis, I think it is a great piece of equipment. However, be sure you take a dolly when you go to pick it up! It is a Swartznegger kind of lifting job! 73 Ade

From ab4el.com Tue Aug 20 00:00:00 1994
From: Mike Cummings <cummings@u.washington.edu>
Subject: Ten-Tec kit catalog

On Tue, 23 Aug 1994, prvalko wrote:

> On Mon, 22 Aug 1994 NYOUNG@DESIRE.WRIGHT.EDU wrote:

> > and still work square. I can hope. Might even have room for a keyer...
> > heh heh heh. Where's my TenTec kits catalog...
>
> Mine is right next to me, I'm calling today to order the little audio
> amp (2 of them) for my NN1G and for my MFJ-9040

Sorry if this is something I missed before, but do any of you have
Ten-Tec's phone # so I can order one of these catalogs?

Mike Cummings NX7E cummings@u.washington.edu
"When you die, if you get a choice between going to regular heaven or pie
heaven, choose pie heaven. It might be a trick, but if it's not,
ummmmm, boy." - Jack Handey, a new spin on Pascal's Wager

From ab4el.com Tue Aug 20 00:00:00 1994
From: hideg@qmserv.erim.org (Steve Hideg)
Subject: TenTec Century 21 For Sale

Subject TenTec Century 21 For Sale

I have a TenTec Century 21 HF CW transceiver for sale.

- + 80m, 40m, 20m, & 10m
- + direct conversion receiver
- + RIT
- + up to 40W output power
- + keyer and calibration generator have been built in
- + PTO mechanism has been rebuilt
- + radio has been modified to also run off 12VDC

- -PTO requires recalibration

\$125

Contact Steve Hideg at hideg@erim.org.

From ab4el.com Tue Aug 20 00:00:00 1994
From: hideg@qmserve.irim.org (Steve Hideg)
Subject: TenTec Century 21 For Sale

Subject TenTec Century 21 For Sale

I have a TenTec Century 21 HF CW transceiver for sale.

- + 80m, 40m, 20m, & 10m
- + direct conversion receiver
- + RIT
- + up to 40W output power
- + keyer and calibration generator have been built in
- + PTO mechanism has been rebuilt
- + radio has been modified to also run off 12VDC

- -PTO requires recalibration

\$125

Contact Steve Hideg at hideg@erim.org.

From ab4el.com Tue Aug 20 00:00:00 1994
From: F_SPEERJR@TITAN.SFASU.EDU
Subject: That gadget

Yes! Shaft-encoder...that's it. And if memory serves, Cutler-Hammer is the guilty non-deliverer.

72!

- - -

If RST>519
 Then cut_power;

Jim Speer, K5YUT
f_speerjr@ccsvax.sfasu.edu

From ab4el.com Tue Aug 20 00:00:00 1994

From: Raymond.Anderson@EBay.Sun.COM (Ray Anderson)
Subject: The I'net RIG

Regarding Bobs's comments below on items 1,2,3,4, and 5:

YES, YES, YES, YES, and YES.
I totally agree.

We need to make it easy enough for for a neophyte to build.
We need to make the performance good enough for the discerning operator.
We need to make it modular to easily accommodate future enhancements.
And above all, we need to move past the blue-sky dream phase and start.

Ray WB6TPU
raymonda@uranium.ebay.sun.com

>Ray and the InternetterDesignerSocietyForNEWandExalticSmokeBurners:

>
... original post deleted ...
> >

.For my 0.02 pfennigs worth (not much really since I QRP with real
>self-heating transistors mostly --- read ``ancientus firebottlus hottus''),
>I would hope that the first round of anything the fellas would do would
>be something that has a small likelihood of being long-lived.

>First, KISS applies (read ``keep it simple sir.....[or other nom de plume]).

>Second, make the design physically larger than state-of-the-art. This
>would keep people with 100 watt irons and George Foreman sized hands
>happy.

>Third, make the design modular. This would keep the mods and updates
>easy and simple. To update the dial, add a digital vtvm module or a
>digital counter module. To update the frequency generation module,
>starting with a simple vfo first, replace the vfo with the synthesizer
>module. To update the audio section, replace the audio input stage
>with audio-filter stage....., etc.

>Fourth, make the design simple to enclose. Keep a logical layout of
>control interfaces and modules so that a fellow with a simple bud-box
>or a fellow with a 4 inch high 19 inch rack cabinet can make it work,
>with sound design cabling/wiring/function/ergonomics practices.

>Fifth, use proven discrete technology for the lowest end machine, with
>whatever solid geewhizzishes synthesizing rocket modules that come later

>designed to be dropped in place, sizewise, functionwise, and flexibilitywise.

>Sounds a bit like TenTec all over again.....

^^

Hey, they're still in business!!!

>Bob

>NA4G

- ----- End Included Message -----

From ab4el.com Tue Aug 20 00:00:00 1994

From: bruce.florip@amail.amdahl.com

Subject: The IN-8 or HW-8+ hmmm....

Brad,

Hate to admit it, but I have a complete HW-8 unbuilt.

I think it was about 5 years ago... I bought it at a ham swap. The guy said it was an HW-7 from the estate of an old friend. I thought \$40 bucks was a lot for a 7... but what the heck it was for his widow right? I got home, opened the box... It's an 8! So far since I have a couple of working HW8s, I decided to leave it unbuilt. I would loan out the board, if you want to reproduce it. baf00@amail.amdahl.com. 73, Bruce

From ab4el.com Tue Aug 20 00:00:00 1994

From: Adrian Weiss W0RSP English Department <AWEISS@charlie.usd.edu>

Subject: RE: VFO drift questions

Yes, you can expect severe drift and a very sensitive response to any change in ambient temperature (blowing on it etc.).

Yes, it would be a good idea to shell out the \$3 for the trimmer.

Yes, it is a good idea to pack the enclosure with some kind of insulating material. Remember that the air between the bottom of the p.c.b. and the metal enclosure is a pretty good heat conductor as well.

73, Ade

From ab4el.com Tue Aug 20 00:00:00 1994
From: K7YHA@aol.com
Subject: WARC Band QRP Freqs

There seems to be some confusion about whether or not there are any
"official" QRP frequencies for 30, 17 & 12 meters.

The last I read the ONLY WARC band that had a QRP gathering spot was 10.106
on 30 Meters. 17 & 12 Meters did not have any such assigned QRP frequencies.

Does anyone know FOR SURE the ACTUAL frequencies used for QRP on the WARC
bands.

72 Rich

From ab4el.com Tue Aug 20 00:00:00 1994
From: Stephen Trier <sct@po.cwru.edu>
Subject: Re: WARC Band QRP Freqs

> The last I read the ONLY WARC band that had a QRP gathering spot was 10.106
> on 30 Meters. 17 & 12 Meters did not have any such assigned QRP frequencies.

I read in _Sprat_ 78 (Spring 94) that OK QRP and QRP ARCI have picked
different QRP frequencies for 17 and 12. G-QRP apparently hasn't endorsed
any frequency in the WARC bands yet.

> Does anyone know FOR SURE the ACTUAL frequencies used for QRP on the WARC
> bands.

>From _Sprat_ 78:

OK QRP:	10.116	18.096	24.906
QRP ARCI:	?	18.080	24.910

The 10.116 differs from your quoted 10.106. I wonder if that is a typo, or
if there is some disagreement in that band as well?

Stephen

- - -
Stephen Trier The photovoltaic cell is not an electronic device
sct@po.cwru.edu in the accepted sense, since the conduction through
KG8IH it occurs in a semiconductor....
 - Standard Handbook for Electrical Engineers, 1941

From ab4el.com Tue Aug 20 00:00:00 1994
From: Stephen Trier <sct@po.cwru.edu>
Subject: Re: WARC Band QRP Freqs

- ----- Forwarded message, resent to the list by request.
Return-Path: adams@chuck.dallas.sgi.com
Date: Sun, 21 Aug 94 14:38:35 -0700
From ab4el.com Tue Aug 20 00:00:00 1994
From: adams@chuck.dallas.sgi.com (chuck adams)
Subject: Re: WARC Band QRP Freqs

Stephen, KG8IH, noted the difference in 10.116 and 10.106 for
QRP calling freqs between EU and QRP ARCI. That was not a typo,
both freqs are correct. I had heard some talk about changing
the 10.106 to 10.116, but don't think it'll happen anytime soon,
if ever. I think we just have to look at both. Remember, your
license doesn't restrict you to one frequency, and being QRP
doesn't either.

dit dit
Chuck Adams K5FO CP-60
adams@sgi.com

- ----- End of forwarded message

- --
Stephen Trier The photovoltaic cell is not an electronic device
sct@po.cwru.edu in the accepted sense, since the conduction through
KG8IH it occurs in a semiconductor....
 - Standard Handbook for Electrical Engineers, 1941

From ab4el.com Tue Aug 20 00:00:00 1994
From: "SLRC1::M405142" <M405142%SLRC1.decnet@mdcgwy.mdc.com>
Subject: Wanted: TenTec #276 Xtal calibrator

Wanted for TenTec Century-21 : Model 276 Crystal Calibrator. Any Condition.
State condition, price. THX. -NOXEU Matt (314) 962-1418 eves (6-9:PM CST)

From ab4el.com Tue Aug 20 00:00:00 1994
From: Roger Traylor <rlt@SSD.intel.com>
Subject: [none]

Sorry about this, but Monte Stark, I lost your address. Can you send again?
Thanks,
Roger Traylor
rlt@ssd.intel.com

From ab4el.com Tue Aug 20 00:00:00 1994
From: rdkeys@csemail.cropsci.ncsu.edu (R. D. Keys)
Subject: [none]

OK folks, ol' NA4G bit the bullet and stuffed the wad of money between the choppers..... and did the experiments, last night.

On the subject of end fed wire tuners, null length coax feedlines and SWR, and the use of field strength meters as the tuning indicator:

++++
The original post was:
++++

>
> I was looking through my antenna handbook and realized there wasn't a
> random wire tuner shown in it. I have seen them in the past but for the
> life of me I can't remember exactly what they looked like or how they
> were constructed. Could some kind QRP soul do a ascii art or a
> explanation? Thanks and 72!
>
> Jeff
>
>

++++
My suggestions for possible tuners for QRP or Boatanchors were:
++++

My best results for tuners are as follows:

1. For 1/4 or odd multiple 1/4 wave antennas (lo-Z):
 - a) use a series coil and capacitor cut to suit the band.

- b) use a pi-net tuner.

BASIC SERIES TUNER: $(10-Z)$

rig ----- coil ----- capacitor ----- random wire

BASIC L-NETWORK TUNER: (hi-Z)

```

rig ----- coil -----+----- random wire
                        |
                        capacitor to
                        ground or
                        counterpoise

```

BASIC PI-NETWORK: (unknown-Z)

rig -----+----- coil -----+----- random wire
 | |
 capacitor to capacitor
 ground or ground or
 counterpoise counterpoise

Note: The capacitors are usually variable, but don't need to be.
(Variables are preferred, although close approximations from the junk box switched in gang are fine if relatively close).

Note: The coils are usually variable, but don't need to be.
(Roller inductors or tapped coils or a precut coil/band are fine.)

Note: The best of all possible worlds is the pi-network tuner with a series tuner in the antenna side outboard of the pi-net. It will

give very good harmonic suppression if properly set up.

Note: Tune the antenna for maximum field strength on a field strength meter. DO NOT USE AN SWR METER, since SWR is meaningless on an antenna fed directly, in terms of feeding it. Your indication of maximum power transfer (match) to the antenna is maximum field strength.

Note: Remember the basics of wavelengths for the length of wire you are using so that you choose which tuner to use for which wire on which band. IS THE FREQUENCY YOU WANT TO WORK WITH THE WIRE YOU ARE USING A HIGH or LOW IMPEDANCE FEED. Choose the appropriate tuner for the appropriate feed impedance. Keep it simple and it works!

My favorite antenna for 80 meters or 40 meters is a more or less vertical wire up to a tree 65 feet long for 80m or 32 feet long for 40 series tuned. I have used it with a simple coil and variable capacitor since my novice days. You don't need fancy stuff. Bell wire and some plastic will work just fine. My mentor, N1KW, used two foot square aluminum plates mounted on the wall with a plastic sheet in between and a coil airwound out of heavy ground wire, during his college days, and it worked absolutely magnificently mounted up on the wall of the shack. A dowel was cemented to the aluminum plate with epoxy to act as a handle to move it across the fixed plate.

Such an antenna works quite well all over the US on QRP or QRO. My current antenna is just this sort of antenna, and folks can hear me QRP easily to the midwest and beyond, and QRO all over the world.

I contend that any newbie on the hamradio block can put one together for under 5 bucks after perusing any hamfest or for free by hitting up an elmer or two for a variable cap of some sort and a few feet of wire.

Good Luck....

Bob

++++
Discussion of varying intensity of flak/flames/gusto followed:
++++

The theorists on the net (particularly the rec.radio crowd) were of the opinion that there was a fair amount of poppycock out upon the walk.

The practitioners on the net were of the opinion that some things were

reasonable, but others were not so reasonable.

Having waded through the fine discussions (all were well received and carefully considered), I decided that I had better recheck my position and make sure that what I was saying was reasonable, and experimentally borne out.

So I conducted some experiments last night to shed some light on the issues and see what could be seen.

++++
My experiments to test the waters PRACTICALLY last night were:
++++

Materials and Methods:

1. I ran up a piece of wire 66 feet long to a tree. Added a 4 foot leader to bring the thing into the shack. Added a 66 foot counterpoise wire to the ground connection.
2. I used a series coil and capacitor (1.5 inch coil wound with 25 turns of bell wire for 80 meters and another 1.5 inch coil wound with 10 turns for 40 meters --- capacitor 250pf variable) to tune the system to 80/40m. The tuner was hooked up to the swr bridge with a 1 foot piece of coax cable and an alligator clip to the coil. The other end of the bridge was hooked up to the rig (standard TS-140S rice box transceiver) with another 1 foot piece of coax. The swr bridge was a standard GC thing that measures swr and power and is reputed to work up to 30 mhz or beyond.

BASIC SERIES TUNER: (lo-Z)

rig ----- coil ----- capacitor ----- 66 foot wire antenna

3. I used a series coil (same ones above) and a shunt capacitor (same one above on the output side of the coil to ground) to tune the system to 80/40m. Same rig and coax through swr bridge.

BASIC L-NETWORK TUNER: (hi-Z)

rig ----- coil -----+----- 66 foot wire antenna

|
capacitor to
ground or
counterpoise

4. To the resonant systems (series coil and capacitor on 80 meters and the series coil and shunt capacitor on 40 meters) I added approximately 10 feet of junkbox 50 ohm coaxial cable feedline between the SWR bridge and the tuner to see if adding length to the feedline would alter the measured SWR.

Hypotheses:

1. Expected results on 80 meters would be that the series coil and capacitor should tune the system to resonance and present a reasonable match to the transmitter with an expected practical SWR of less than 2:1. The shunt coil and capacitor should not provide resonance tuning and transfer of power to the load (antenna) as indicated by a peak in the field strength with tuning.
2. Expected results on 40 meters would be that the shunt tuner (series coil with shunt capacitor) should tune the system to resonance and present a reasonable match to the transmitter with an expected practical SWR of less than 2:1. The series coil and capacitor should not provide resonance tuning and transfer of power to the load (antenna) as indicated by a peak in field strength with tuning.
3. Expected results of adding the line between the tuner and the SWR bridge were unsure. Two groups of internetters suggested that
 - a) the changing of line length would affect the SWR, or,
 - b) the changing of line length should not affect the SWR, and,
 - c) my personal experiences over the years have indicated that some effect would be present if the change in line length were a significant part of a wavelength at the frequency of test.The added length of 10 feet was about 10 percent of a wavelength on 80 meters (actually about 7.5 percent of a real wave and 10 percent of an electrical wave) and 20 percent on 40 meters (actually about 15 percent of a real wave and 20 percent of an electrical wave).

Results:

1. On 80 meters, the series coil of 25 turns and capacitor with about half mesh tuned the 66 foot wire with 4 foot leader to resonance as

indicated on the field strength meter sitting on top of the relay rack in which the gear is mounted. WHEN THE FIELD STRENGTH METER PEAKED THE SWR DIPPED AND THE SWR WAS LESS THAN 1.1:1. (ABOUT HALF THE WIDTH OF THE METER NEEDLE). THE PEAK AND THE DIP COINCIDED EXACTLY. Full power was apparently transferred to the load.

2. On 80 meters, the series coil of 25 turns and shunt capacitor did not provide any indication of resonance as shown by a peak in the field strength or a dip in the SWR bridge. No power was transferred to the load, beyond maybe a watt or two (a small indication of stray RF was indicated on the field strength meter).
3. On 40 meters, the series coil of 10 turns and series capacitor did not provide any indication of resonance as shown by a peak in the field strength or a dip in the SWR bridge. No power was transferred to the load, beyond maybe a watt or two (a small indication of stray RF was indicated on the field strength meter).
4. On 40 meters, the series coil of 10 turns and shunt capacitor did tune to resonance as indicated by a peak on the field strength meter. WHEN THE FIELD STRENGTH METER PEAKED THE SWR DIPPED AND THE SWR WAS LESS THAN 1.5:1. THE PEAK AND THE DIP COINCIDED EXACTLY. Full power was apparently transferred to the load.
5. The addition of feedline did nothing to the non-resonant antenna systems, for the 10 percent wavelength (on 80 meters) or 20 percent wavelength (on 40 meters) that were added.
6. The addition of feedline DID slightly alter the SWR (increased it from about 1.1:1 to about 1.2:1 on 80 meters and from about 1.5:1 to about 2:1 on 40 meters). The effect of adding up to about 10 feet of like line (50 ohm added to 50 ohm) at 80 meters and 40 meters was small, but did occur. The effect was not sufficient to change the PRACTICAL application of the methods on a standard rice box transceiver, for the lengths added. The effect was on the indicated SWR measured by the SWR meter (a standard GC ham SWR power meter of common garden sort, good up to at least 30 mhz).

Discussion:

1. The different series and shunt tuned antenna systems represented both high and low impedance antenna systems but not intermediate impedance systems. For the high and low impedance systems, the use of a field strength meter as an indicator of best match or maximum power transfer was, to all practical purposes, a reasonable way to tune the rig, provided the antenna tuner would actually tune the system to resonance. If the system would not tune to resonance

then the use of a field strength meter would not be appropriate.

2. I did not test an intermediate impedance system (a truly random wire). My experiences over the past years would indicate that a random wire is usually not any better than cutting the wire to fit a practical odd or even number of quarter waves of length. The complex impedances can be tuned with things like a pi-network tuner, or t-network tuner, although it is always easier to tune an antenna that has some direct relationship to a natural fundamental frequency wavelength (the classical half wave). The cut to measure 1/4 wave or 1/2 wave or 3/4 wave antennas do. From the practical point of reference, the 1/4 and 3/4 wave length antennas will present a low impedance tunable to resonance with a simple series coil and capacitor. Likewise, the 1/2 and even longer antennas like the 2/2 wave or 3/2 wave antennas, will present a very high impedance tunable to resonance with a simple series coil and shunt capacitor to ground.
3. A pi-network tuner is probably the best for harmonic suppression (or a pi-L combination or a pi-M combination), but since most rice box rigs are generically clean, these days, and there are no tuning controls to muck with, the requirement for additional output harmonic suppression is, in the practical sense, minimal. What is required is the proper impedance transformation to match the rig to the antenna for maximum power transfer. The series coil and capacitor or the series coil and shunt capacitor fulfill the requirements satisfactorily from the practical point of view for the low and high impedance antenna feeds.
4. As was suspected, the peak in field strength and the dip in reflected power (and peak in forward power also, but I did not want to make any case about that) coincided exactly. This would support the notion that the field strength meter can be used in lieu of an SWR bridge in certain cases, like the ones examined, with complete confidence, IF you know what is expected and what the results should be.
5. The use of a null length feedline between the rig and the tuner did not introduce any variables into the practical application of the methods to match end fed wire antennas. The additions of feedline up to 10 percent had no practical effect at any given wavelength (80 or 40 meters with up to 10 feet added), but did slightly increase SWR. I must conclude from this that in the real world, with the use of null feedlines (feedlines approaching an insignificant portion of an electrical wavelength at the frequency of use) SWR is meaningless and has no practical basis. All perturbations of SWR for the added feedline lengths (up to 20 percent of an electrical wave) were within design specifications of less than 2:1 SWR. Both the theoreticians and the practitioners are

upheld in this notion. The theoreticians suggest that SWR does not change as line length changes (my measurements suggest that measured SWR did change, but not of any practical amount). The practitioners suggest that SWR does change as line length changes (my measurements would concur, although the magnitude of such changes is practically insignificant within the systems described). The results I obtained would suggest that the net effect of SWR becomes less and less as the feedline length is shortened. The null length feedline becomes the practical limit of the lessening effect, which approaches no effect at all. I don't know where all the theoreticians and practitioners went to school, and do not mean to take issue with their training, but I do wonder if, to any real practical sense, SWR has any meaning, except upon feedlines of sufficient length to have standing waves introduce effects. My ancient training from books most folks have probably forgotten would suggest that for feedlines or antennas to have any significant standing wave effects, they must be able to support standing waves. As a line approaches a null length I was always under the impression that the reactances introduced as the line length decreased, became less and less and the net outcome was less effect on the signal being passed through the line. One can introduce discontinuities in the line by adding say several feet of 70 or 90 ohm coax to a 50 ohm feedline as a transmission line transformer. But, when such discontinuities are not added to the line, the effects of the line approaching a null length seem to become less and less.

Conclusions:

For my 0.02 pfennigs worth, I must still take the position in the practical amateur radio world, with radios designed to work into impedance mismatches having SWRs of 2:1 or less, and using end fed high or low impedance antennas, and using null length feedlines between the rig and appropriate high/low-Z tuners as described above, that a simple field strength meter will provide entirely satisfactory antenna tuning and that for all practical intents and purposes SWR in this type of system is meaningless.

73 and hope this clarifies my practical position....

Bob
NA4G

Email: rdkeys@csemail.cropsci.ncsu.edu

p.s. ``Ma, Where's my flame retardant, asbestos flak suit. I feel a

storm a'brewin' here.'

```
*****
* 73 TU SU SK DE NA4G          ``Boat Anchor Bob'', an ol' CW fart. *
*****
* Morse has been in the family for over 100 years. *
* Morse radiotelegraphy (Spark/CW) has been in the family since 1914. *
*****
* May you have fair winds and following seas on your watch at the key. *
*****
```

From ab4el.com Tue Aug 20 00:00:00 1994
From: F_SPEERJR@TITAN.SFASU.EDU
Subject: index labs rig

For any readers who have been waiting for a while for delivery of the new Index Labs qrp rig:

As you may know, completion of the last batch has been delayed because of non-delivery of a sole source part. (It's the rotary gadget that generates the tuning logic, but I don't recall, if I ever knew, what you call such gadgets.)

I talked to the folks Friday. They said they had received 20 of the ordered 150 such gadgets last week, which will permit them to ship 20 units this week. My order has been in since late May, and I was assured mine would be one of the units shipped. They're hopeful of receiving the remaining gadgets soon, and expect to catch up on all back orders within the next few weeks.

What in the bloody h*** (or for you Brits, the bl*** hell) IS that gadget called, anyway?

72!

- - -

If RST>519
Then cut_power;

Jim Speer, K5YUT
f_speerjr@ccsvax.sfasu.edu

From ab4el.com Tue Aug 20 00:00:00 1994
From: "Stan Goldstein, N6ULU" <stan@cruzio.com>
Subject: ten-tec vfo ?

I see Ten-Tec is making a bunch of kits . Are they making a stand alone vfo kit ? If they are, I would like to know about them. Does anyone have any info on this ? Thanks.

- - -

Stan Goldstein , N6ULU

From ab4el.com Tue Aug 20 00:00:00 1994
From: rohrwerk@holonet.net
Subject: vfo use

On 08-15-94 meh@cbsms1.cb.att.com wrote to qrp@Think.COM:

> Well as luck would have it I am now a proud owner of a Ten Tec VF0.
> Now what do I do with the thing?
> The vfo coverers 80 and 40 meters directly and
> multi's up for the rest of the 20, 15, 10 meter bands.
>

Make yourself a nice QRP transmitter with a few extra amplifier stages. Drive your direct conversion receiver with it. Etc., etc.

BTW, is this a free-standing unit, like old VF0's for boatanchors, or a subassembly from another rig?

: John Seboldt rohrwerk@holonet.net / I am Bach of Borg...
: Amateur radio K0JD... / your style will be
: Church of the Annunciation, / assimilated.
: Minneapolis /

-> Alice4Mac 2.3 E QWK Eval:05Mar94

From ab4el.com Tue Aug 20 00:00:00 1994
From: Brad Mitchell <bmitchel@CBA.Kodak.COM>
Subject: withdraw hw proposal.

Sorry about this guys, but the idea I had about doing an hw-8 is turning back into the Inet BOMB.

THESE TWO SUBJECTS ARE NOT RELATED.
I wish to withdraw the proposal.
Thanks.
Brad WB8YGG

